THE PASSPORT HOUSE LETTER
Journal of Apple II Development • June, 1993

APPLE EXPO WEST 1993!

The First Annual Apple Expo West show for Apple II and Macintosh computers was held April 23-25 at Brooks Hall in San Francisco, California's civic center (pictured above). We've prepared a Special Report covering the Apple II highlights of the show, beginning on page five of this issue.

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The Passport House Mailbag

Dear Passport House,

Thanks for the great newsletter! Please sign me up for a subscription. My check is enclosed. In 1983 (I think) I purchased my first computer (an Apple IIe). Since then, I upgraded to a GS (around 1986). It has faithfully worked for me until recently when the ADB (Apple Desktop Bus) died. It is chronic, a static zap to the keyboard must have killed it. I tried different keyboards with no luck. It looks like the motherboard gave up. I almost gave up; thoughts of scrapping that faithful computer were filling my head, until your letter came. It proved to me that the Apple II still has a lot of miles left on it. Instead of scrapping the GS, I purchased an exchange logic board from Shreve Systems (1-800-227-3971) for 200 bucks! That's a lot cheaper than a new Macintosh or PC. Thanks again for reviving my interest in the APPLE II!

Sean Flanagan
Littleton, CO

In a recent issue of SoftDisk, it stated that you publish an Apple II newsletter. I am the II SIG Leader for Apple P.I.E., and Apple User's Group in Michigan. I was wondering if you could send me a sample of your magazine so that I may show it to our club members at the next meeting.

Thank you very much,
Paul Smith
New Baltimore, MI

Paul, your copy is in the mail. Faithful readers, note: if you have a Apple II friend you think would enjoy reading our publication, send his or her name and address to us and we'll send them out a free, complementary issue of the Passport House Letter to peruse.

Dear Passport House Letter editor,

Thank you for the sample issue of the *Passport House Letter.* I am an Apple two enthusiast and I own Apple IIe and IIc computers. I enjoyed the articles in your first issue and regard them to be informative and well written.

But I question whether the dwindling Apple II community needs yet another minor publication of moderate cost ($24 per year). I maintain my subscription to *InCider/A+*, because it is still the main Apple II publication. With its 60+ pages per issue, and its advertisements and monthly columns it still is worth reading despite the focus being blurred with the Mac section.

You should meet with these other publishers of small Apple II newsletters and agree to combine your efforts into a single publication—*Resource Central,* Quality Computers *II Alive,* and the *A2 Alliance.* From my standpoint as a hobbyist, I cannot afford several individual publications, but I would consider seriously subscribing to one larger alternative Apple II periodical. I presume that you will attend the Apple II festival in California [Apple Expo West] in April; meet with the other publishers of small newsletters then and discuss the idea. Alternatively, discuss it with them via correspondence, e-mail, or telephone.

The other point is that the name of the newsletter should suggest that it is about the Apple II computer. "Passport House" does not indicate what the newsletter is about.

Stephen Buggie, Ph.D.
Dept. of Psychology, Presbyterian College
Clinton, SC

In a perfect utopia (or perhaps the Communist Paradise) there would only be one Apple II publication (Apple Pravda?). Unfortunately, whenever you mix millions of Apple II users with a handful of capitalists, you end up with several enterprising groups ready to print their own ideas.

*Passport House happens to be one of the producers of an Apple II newsletter, there are many more besides those you mention. While our merging with another like-minded team is certainly not out of the question, it is unlikely you'll convince the entire non-*InCider/A+ *Apple II publication universe to compact into a Super-Journal of all things Apple II.*

We suggest that you cancel InCider/A+ *and use the balance refund to subscribe to one or two of the good publications available.* InCider/A+ *is beyond having a simple focus problem—despite the overall page count, there's only a page or two of interest to Apple II readers, and there are so many blatant errors in the magazine that it's hard to know what you can believe in it.*

If you're looking for ads, you can find InCider/A+ *in a library. For news, you'd be better off subscribing to a good newsletter, joining a users' group or linking up with an online telecommunications service.*

About our name: we like it. It's different (tho not so much as Fishhead's Children*) and people remember it when they see it. We certainly like it better than a more generic name on the order of* "II News" *or something similar. Apple would write us a nasty letter if we used their name in the title, and* 816 *may still be registered. Besides, we wanted a fresh image. Sheesh! Judge us by our writing, not our cover.*

Send your letters and comments to "Passport House Mailbag" at our regular address below.

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THE PASSPORT HOUSE LETTER

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BACK ISSUES & OTHER INFORMATION

The Passport House Letter has been printed regularly since our premier issue of January 1993. If you are interested in obtaining back issues, please write us. The Premier January 1993 issue is no longer currently in print. Our "regular address" appears in each issue on page two, with any current public Email addresses available. Please feel welcome to contact us with any suggestions, problems, news or other corrospondence. Due to the volume of mail we get, we can't always reply directly, but we do consider all mail and appreciate any comments from our readers. Email is the most effective way to contact us.

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The Editors' Letter

Welcome to a new issue. You've probably already noticed some of the cosmetic changes we've made in our publication this month. It seems like we do a radical change every issue—sorry, we're working on settling down with a single style.

The June facelift

This issue's facelift comes from an improved print driver (software used to talk with the printer we use). It lets us do stuff we weren't able to do before—*really* basic stuff like full justification (for clean edges on both ends of a column of text) and correct kerning (spacing between letters). We're still working out the differences the driver makes.

Among other things, that's made this issue a little late getting to press. You should be getting each issue around ten days before the end of the month (accept for this issue). Unlike *GS+*, we can't blame our being late with the current issue on freakish weather. It's been plumb balmy up here in the Far North reaches of Montana, although a little cool at night—but hardly weather one could use for an excuse.

Speaking of *GS+* (or were we?), Steven Disbrow reviewed our journal in the latest issue (March–April). We're still trying to decide whether to be flattered or indignant. :) Actually it was a pretty nice summary.

Issue Details

Guess what? This is the first issue of the new half year! If we were a bimonthly like *II Alive*, we could be celebrating our first anniversary—dang. Oh well, consider it a special issue anyway. In addition to the modifications this month, we've got a lot of New Products to report, and plenty of Late News.

In addition, we've prepared two Special Reports. The first is on Apple Expo West, the new Apple show (it's the first time it has been held). The second report is an introduction to the Internet. You've probably heard about the Internet, but not many people really know much about it. Because of the intense Apple II activity on the Internet, we though it would be a good idea to introduce our readers to it.

Down to business

What else is new? Our business department is working up a new program to widen out our subscriber base. More subscribers mean more funds to print more pages—it's kind of frustrating to run out of paper before we run out of material. Going to sixteen or twenty pages would really be nice. That costs money, of course.

Part of one plan for expanding our circulation includes working with a developer to license exclusive use of a program to distribute as a free gift with paid subscriptions. We're looking for a small developer or programmer with a special program, game or utility that would be useful to a range of people. We'd package it to give away to new subscribers (and send a copy free to current subscribers), paying the programmer a royalty fee. It couldn't be something already publicly available; this has got to be a special thing you can't get anywhere else.

Interested programmers should contact us soon. Could be an easy way to become famous while making some money. We'll be looking for people thru June.

The Passport House Catalogue

We're also busy putting together The Passport House Catalogue. Don't worry, this isn't a collection of overpriced shareware—we don't even like the idea of making money by distributing other people's work at a profit.

Instead, we're assembling a select group of things we can offer as a service to our readers. First on the list is what we're calling "Essentials," that is, software classics you can't (or shouldn't) do without.

We're also designing a special edition (and very cool) Passport House "Fresh Juice for Apple II's" shirt (just in time for the long, hot summer) and a selection of other useful items. This isn't big time mail order; it's more like an Apple II co–op store, including volume prices on disks and other necessities. We're planning to make this a very cool thing—any comments on the subject are welcome.

A new standard for the Apple II

What would you think of having masses of data at your fingertips? Pressing CD–ROM's is still pretty high, and there isn't a great deal of other CD–ROM titles out there to warrant most Apple II users to buy a drive. So we've been planning out a new standard for Apple II owners that 1) will make distributing reams of data easy and 2) will be affordable for the majority of Apple II users.

The idea is pretty basic: if the interest is close to what we expect, we'd like to buy Floptical drives at bulk rate to sell to Apple II users, and then create a selection of Floptical volumes to distribute—volumes of sound data (music files, sound effect samples, instrument samples), pictures (Print Shop graphics, SHRs, GIFs, 3200's), text (Shakespeare, the Bible, Apple tech notes, other stuff) and great software. We'll collect the stuff, deal with copyrights (lawyer on staff) and sell the collections on Flopticals.

Floptical disks hold 21 MB of data, yet are very cost effective, making them a good choice for doing this sort of thing. In addition, a lot of Apple II users are interested in having a SuperDrive, and F–drives doubles as a high density ProDOS drive (and a high density Mac and IBM drive for a IIGS with the FSTs) without needing the SuperDrive interface card (it goes on the SCSI chain).

On the subject, and to clear things up, YES FLOPTICALS DO ALLOW you to interchange disks from a IIGS (with HFS FST) to a Macintosh and back—another plus for Floptical. In fact, the only thing the F–drive doesn't do is read a standard 800 K Mac or ProDOS floppy—and the 3.5" drive you already have does that.

Are you sold yet? We're planning to introduce a low cost (but high quality) Floptical drive in next month's Catalogue so that we can start with this plan. We'll also start lining up some great "F–Volumes" to go with them. Get them while they're hot. We're planning on making small, support profits on this, as we are not a big profiteering mail order company, nor do we want to be.

Doesn't it sound like a great idea? If a good number of Apple II users get an F-Drive, they would be very cool means for sharing mega–amounts data very cost effectively.

TEST DRIVE

Twilight II version 1.1

Jim Maricondo DigiSoft Innovations P.O. Box 380 Trumbull, CT 06611 (203) 375-0837	Special FX Screen Blanker —— Control Panel System 6 $39.95 List price

One of the most popular software programs for the Macintosh is After Dark, a screen blanker utility. Apple IIGS users can now install a similar, and in some ways better, utility on their own system: Twilight II from DigiSoft Innovations.

The company refers to its program as "a screen saver with a future," promising to incorporate new features and provide long range support and updating. Already, in version 1.1, Twilight II has managed to install a lot of features. Besides simply blanking the screen to black while the computer is idle, "T2" runs effects modules that perform animations and play sounds—exploding fireworks, for example—on command or after a period of inactivity. Included in the package are over forty different modules.

Besides its own robust module format, which allows for a wide range of different kinds of effects, a module is included to run the simpler effect modules designed for Phantom, the screen blanker in Quality Computer's Signature package.

What does it do?

We don't like the product's advertising line,*Do you like dazzling effects that will protect your valuable monitor from becoming useless when the same image is left onscreen for so long that it is burned into the glass?* While T2 does sport some dazzling effects, we have a hard time with claims that it 'protects your monitor from becoming useless'. The idea, of course, is that changing the image on the screen will help prevent phosphor burn in. This burn in occurs when a static image is displayed for extended periods of time. But nothing will prevent the inevitable death of your monitor, which the claim seems to imply.

Unless you leave your monitor on all the time, phosphor burn in isn't something you should lay awake at night about. The standard IIGS monitor generates a lot of heat, and in our experience, the monitor will usually burn itself out before ghost images appear as a result of burn in. In makes sense to turn the monitor off when you leave your system running for an extended length of time.

On the other hand, if you spend a lot of time going back and forth using your system, a screen blanker like T2 could be a good idea. All things considered, the neato effects it does rank first, the smart design of the product is second and "burn in" protection comes in at a distant third place. Don't buy T2 because your scared about the condition of your monitor, buy it because it's a blanker utility that's a lot of fun.

Screen blanking isn't a total hoax; changing the screen image after a period of inactivity can help prevent ghosting on the monitor screen over a long time frame. And it does—without question—make for an interesting screen display and serve to elect excited responses from friends—reason enough to buy it.

Special Features

What does T2 do that makes it better than other products on the market? First and foremost, it does better blanks. As was commented on before, the module format is open–ended, allowing for a wide variety in the kind of blanks it can do. In addition to the basic "random squares and circles" and "chasing line" blanks, modules are provided that perform interesting effects to the current screen; one clicks squares of the display around like a slider puzzle. Other modules display mathematically calculated effects worthy of *Scientific American*; one plays standard Paintworks animations.

DigiSoft publishes the T2 effect module format and promises to provide tech support for others writing effects modules for T2, so there are likely to be plenty more modules available soon.

The design of T2 is also unique and intelligent. It's fairly easy to install, and the design of the Control Panel (which can be made available in the Apple menu) is easy to figure out. Each module has a set of options that can be modified, allowing for a lot of flexibility in how they work. General options are available that: set specific corners of the screen as hotspots for the pointer (to prevent blanking or immediately start a blank); start a blank after a given number of minutes; turn sound effects off; even blank automatically whenever the watch cursor appears. T2 also claims compatibility with AppleTalk and is AppleShare aware, so it shouldn't have any problems working from a network server.

Limitations

There are a couple of things T2 can't do, and most are limitations of the IIGS' hardware. The design of the operating system won't allow T2 to do effects while running text mode applications, like AppleWorks Classic, or with ProDOS 8 applications, like Publish–It!, although, it can "background blank," making the screen black without taking control of the computer.

We found that T2 seems to have a problem with its configuration file; it seems to corrupt easily. The manual says that if a problem occurs, delete the file and run T2 again (it recreates a new config. file but loses your original settings). It seems like the file has to be deleted on a regular basis. Perhaps related to corruption of this file were other occasional flip ups while using the Control Panel—sometimes, it wouldn't save the option settings, for example.

Recommendations

All in all, Twilight II works very well. It requires System 6, but if you ask for it, DigiSoft will include the six disk set in your order—a great deal for those who haven't yet picked up the must–have system software. DigiSoft's strong commitment to providing support for T2 users is good news as well—and tends to negate any reservations we might have related to minor bugs. What if you already have a screen blanker utility? DigiSoft is offering competitive upgrade offers from both Desktop Enhancer and Signature. Sounds like a great deal.

Product Test Drives

Passport House regularly reviews products we feel may be of interest to our readers. If you would like to see a specific product reviewed in Test Drive, please contact us.

Developers should send products for review to our regular address.

Special Report: Apple Expo West

The first annual Apple Expo West festival kicked off April 23-25. The Apple II & Macintosh trade show was held at Brooks Hall in San Francisco, California. Besides steals and deals offered by various venders at the show, and between the rows of Macintosh stuff, a few new and exciting Apple II products were released or detailed.

Apple II Exhibitors

Exhibitors of interest to Apple II users included Alltech Electronics, The Apple Resource Center, The Bay Area Apple Users Group, Big Red Computer Club, DigiSoft Innovations, DreamWorld Software, Econ Technologies, The GravenStein Apple IIGS Users Group.

IntelliTools, Learning Services, Lunar Productions, The National AppleWorks Users Group, Parsons Engineering, Procyon Enterprises, Quality Computers, Raymark Enterprises, Resource Central, RezTek, Roger Wagner Publishing.

Scholastic Inc., Sequential Systems, Service 2000, Seven Hills Software, Simplexity Software, SoftDisk Publishing and Ventura Educational Systems.

A handful of the exhibitors remarket or repair used Apple II equipment—Alltech, Apple Resource Center and Service 2000—or sell software—Big Red, Quality and Raymark. In addition, many of the Apple II exhibitors were showing off brand new stuff.

New sound software

Econ Technologies demonstrated **DigitalSession.** Described as "the ultimate waveform capture and editing package," it allows IIGS users to record and edit sound using any IIGS audio digitizing hardware. DigitalSession records in true stereo (with a stereo audio digitizer), allows as many open sound files as memory allows and offers simple cut and paste operations between open sound files. It also imports and exports sound data in rSound, HyperStudio, raw binary and SynthLab wavebank file formats.

The package works like a shell environment, running sound effect and filter modules and using sound file translators to save and import data. This design gives it great expansion potential; it can save and open any sound filetype with an appropriate translator, and new sound effects can be added simply and easily. Econ has advertised a variety of sound effects for DigitalSession: amplify, blend, clip removal, echo, fade, silence, frequency shift, frequency bend and merge, with others to be added later.

DigitalSession promises to be a competent and function utility—the standard for working with IIGS sounds. Until now there hasn't been such a professional sound editor available; we look forward to looking at DigitalSession up close.

New sound hardware

Econ was also showing off **SoundMeister**, their audio digitizer and stereo output card. SoundMeister promises good quality sound sampling and 1.5 watt amplified stereo outputs. Not only is SoundMeister now shipping (with DigitalSession), but Econ's other card, **SoundMeister Pro**, is close to reaching completion as well.

The Pro version features high speed 'super linear' analog to digital converters with track and hold, higher sampling rates (which allows more accuracy in recordings at a higher frequency response), input buffering into onboard memory for queued storage of recorded sound (which relieves the system of extra overhead and allows real time sound processing) and the spooling of recorded data to disk (which allows for much longer recording times as opposed to limiting recording to free system RAM).

Econ has promised twelve new products throughout 1993—without giving too many details as to what they'd all be or exactly when. At the Expo, they showed off the beginning of their new line of external SCSI storage systems, from hard drives to CD-ROM and tape backup systems. Also rumored around is a project to boost the IIGS's graphics abilities. Econ made the comment that a major limitation of the IIGS is its graphics system, and said that they were "working on" the situation.

Better graphics would mean—at least—more impetus to develop applications centered around What-You-See-Is-What-You-Get output—including Computer Aided Design and page layout. Currently, the IIGS's screen is so limited it staggers to display anything near what you get in printouts.

Great graphics show

While Econ is working, another company has introduced—actually reintroduced—a new IIGS graphics card. RezTek's's **TurboRez GS** is an expansion card that boosts screen resolution and color depth.

The card, in one form or another, has been in a sort of limbo for the past four years. TurboRez was first introduced at the 1989 San Francisco AppleFest. The prototype excited show goers but didn't drum up the material support the company had bet on. The next spring, a downsized TurboRez was unveiled at a second computer fair only to prove to be too expensive to produce. The product was declared dead, only to rise again this spiring.

What does the TurboRez GS do? It offers new graphic modes that produce more colors per line that the IIGS's standard. For example, 320 x 200 mode offers 256 colors per line as opposed to the standard 16; 640 x 200 modes supply 16 or 256 rather than four. The TurboRez supplies hues from a 18-bit palette (256,000); the IIGS basic hardware can only produce 12-bit color (4096). The board also provides display memory (around a megabyte, with expansion potential) for separate screens and page flipping animation; overscan modes (extending the screen to the edge of the monitor); fine horizontal and vertical scrolling in hardware; auto palette updating (which can change 38 of 256 colors between screen refreshes, allowing 7600 colors on screen at once); multiplane graphics (the ability to overlay three or four image planes, allowing fast hardware updating of scrolling animation); high speed blitter and memory refresh at 8 MHz (making for very fast animation and screen display changes).

Beyond the details, the TurboRez board is only as good as the software produced to make it work. To this end, RezTek is writing a special programming toolset to make use of the card easy. They also plan to package the card with a simple paint program, as well as a file converter and slide show program for GIF (graphic interchange format) and standard SHR pictures.

Great graphics right now

Across the isle from RezTek was DreamWorld, showing off the very cool **DuelTris** (see May review) and **DreamGraphix**—the graphics editing system for those of us wanting great graphics right now. While DreamGraphix wasn't just released, it hasn't yet been given the recognition it deserves. The powerhouse works with all types of IIGS graphics, up to those neato 3200 color pics.

DreamGraphix's interface isn't hard to figure out, but if you find yourself confused with the avalanche of features it provides, you might look out for **KinderGraphix**, a developing paint program especially for kids. A short tour of the program in action was impressive—graphic representations of the paint tools are scrolled through by selecting the engine or caboose of a train (you have to see this) and buttons of all kinds are linked to sound effects. Taking into consideration DreamWorld's previous works leaves no doubt that KinderGraphix will be a great program.

Seven Hills' Spectrum

Seven Hills Software was showing off **Spectrum**, their new desktop–based telecommunications program. Spectrum supports baud rates up to 38,400, includes a wide variety of file transfer protocols (including Zmodem and CompuServe B+) and terminal emulations and provides a powerful scripting language. "Scripts can do almost anything, ranging from emulating a bulletin board to the daily automatic logging, sending and retrieving of mail," Seven Hills says.

For convenience, an online text editor is available that lets you work with plain text, Teach and AppleWorks Classic file formats. Spectrum can also send any of those three filetypes in a text–only modem transfer.

Spectrum includes multitasking support for most operations under The Manager. It requires System 6, at least a megabyte of memory and a modem. Standard external modems connected to either the modem or printer port or to a Super Serial Card (in any slot) will work, as will internals like Applied Engineering's DataLink and compatibles.

Spectrum's retail price is $129.95; owners of any commercial telecommunication program can trade up to Spectrum for $60 (plus $3.50 shipping) directly from Seven Hills Software. In addition, Seven Hills is offering a special introductory upgrade for $50 (plus $3.50 shipping) through July 31, 1993).

Seven Hills also announced **Disk Access II**, a revamped New Desk Accessory that allows modification of file info, file cataloging, viewing file contents, file searching, batch selection and other file system tasks.

Other interesting stuff

Also on display at the show was DigiSoft's **Twilight II** (see Test Drive), the most comprehensive screen blanker available for the Apple II; IntelliTool's **IntelliKeys** and related products (in New Products) and Parsons Engineering's**Focus** hard drive card and a memory expansion card (also in New Products).

Expo Exibitor Addresses

Alltech Electronics
602 Garrison St
Oceanside, CA 92054
(619) 721-7733

The Apple Resource Center
1015 Central Ave
Tracy, CA 95376

Bay Area Apple Users Group
2717 A Walnut St, #62
Berkley, CA 94709

Big Red Computer Club
423 Norfolk Ave
Norfolk, NE 68701
(402) 379-4680

DigiSoft Innovations
P.O. Box 380
Trumbull, CT 006611
(203) 375-0837

DreamWorld Software
P.O. Box 830
Iowa City, IA 52244
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Econ Technologies
99 N Central Ave, Ste B
Oviedo, FL 32765
(407) 365-4209

GravenStein Apple IIGS Users Group
P.O. Box 964
Petaluma, CA 94953
(707) 224-5110

IntelliTools
5221 Central Ave, Ste 205
Richmond, CA 94804
(510) 528-0670

Learning Services
P.O. Box 1636
Eugene, OR 97440
(800) 877-9378

Lunar Productions
1808 Michael Dr
Waukesha, WI 53186
(414) 549-9261

NAUG
P.O. Box 87453
Canton, MI 48187
(313) 454-1115

Parsons Engineering
5010 Rimhurst Ave
Covina, CA 91724
(909) 394-0025

Procyon (see Sequential Systems)

Quality Computers
20200 E Nine Mile Rd
St. Claire Shores, MI 48080
(800) 777-3642

Raymark Enterprises
150 17th St, Ste 105
Oakland, CA 94662
(510) 839-1784

Resource Central
6339 W 110th St
Overland Park, KS 66211
(913) 469-6502

RezTek
2301 Cotton St
Santa Rosa, CA 95401
(707) 573-9257

Roger Wagner Publishing
1050 Pioneer Way, Ste P
El Cajon, CA 92020
(800) 421-6525

Scholastic Inc.
4460 Black Ave, Ste J
Pleasanton, CA 94566

Sequential Systems / Procyon
1200 Diamond Cir
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(800) 759-4549

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5301 E River Rd, Ste 106
Minneapolis, MN 55421

Seven Hills Software
2310 Oxford Rd
Tallahassee, FL 32304
(904) 575-0566

Simplexity Software
13045 Chapman Ave, Ste 302
Orange, CA 92665
(714) 283-3957

SoftDisk Publishing
606 Common St.
Shireveport, LA 71101
(800) 831-2694

Ventura Educational Systems
910 Ramona, Ste E
Grover Beach, CA 93433

Special Report: The Internet

THE INTERNET—It's become a buzzword in the popular press. The media has talked about the Internet as a "data superhighway." But few people know much about it. What is the Internet, and what use is it to Apple II owners? The following is a simple introduction to understanding the Internet's use and function.

What the Internet is

The mass media's analogous depiction of the Internet as a data superhighway misses the point. Most simply put, the Internet is a nationwide computer network. Rather than being a "client/server" type of network (as one might find in an office full of business computers), the Internet is made up of linked computer systems (big computers, that is) that share a standard protocol—like a sophisticated peer–to–peer network.

There are three main services the Internet provides: 1) Electronic Mail (Email) messaging between Internet sites, or "hosts"; 2) File Transfer Protocol (FTP), used to gain access to files stored at another Internet computer site and 3) Telnet, connecting with another host and working on it as a terminal. More on these functions later on, but first, some basic background information.

Why does the Internet exist? The National Science Foundation was the chief propagator of the Internet. The NSF collected together regional networks under the Internet Protocol. The original intent was to enhance research and educational projects through an open communication and exchange of data.

Internet was subsidized by the United States government in the interests of providing the government with a flexible means of communication. It's impossible to break the Internet by cutting a few wires because the Internet isn't a physical network; it's an interconnected protocol system.

Until recently, use of the Internet has been restricted to people or organizations involved in research and education. The guidelines governing acceptable use have been relaxed to allow commercial companies and online services to use the Internet for many purposes. America Online, AppleLink, AT&T mail, CompuServe, DELPHI and MCI Mail all have connections to the Internet.

The opening up of the Internet brings a new channel of communication to isolated Apple II users. While the Apple II has long been of subject on the Internet, and Apple II users have long had access (even creating an Apple II newsgroup), until recently they have had to have connections through a university or government site. Now, with an account on a commercial service, Apple II users can connect straight from their II.

What you can to with Internet

Let's take a closer look at the three functions provided by the Internet Protocol: Email, FTP and Telnet. Most users have heard of Email; it's a way to send messages to other users across a network. Type in a message, give it an address and it gets sent—usually within minutes. Most online services provide some type of Email services to their subscribers.

Email on the Internet

As with any network's Email, on the Internet, you'll need the address of the person you are trying to reach. Internet addresses consist of two pieces of information: the person's username and their host location. The username is appropriately followed by an @ symbol and then the host location. Our Internet Email address looks like this: phletter@delphi.com. We're connected though the host DELPHI. The suffix ".com" states that DELPHI is a commercial host. Other suffixes indicate a military (.mil) or educational (.edu) location of the host.

Without a direct connection to the Internet, you can still send Internet Email from many commercial services. America Online, CompuServe, GEnie and DELPHI all allow users to send and receive Internet Email.

From the Internet, Email can be sent to other commercial services—meaning that members of one service can usually Email members of another service via the Internet. Try Emailing America Online users at: username@aol.com; AppleLink users at: username@applelink.apple.com; AT&T mail users at: name@att.com; CompuServe users as: 12345.678@compuserve.com (using a period instead of the user number's comma); GEnie users at: username@genie.geis.com and MCI Mail users at: name@mci.com.

Keep in mind the following points: 1) CompuServe and commercial mail services have charges for receiving Internet Email, 2) only specially registered GEnie users can receive Internet Email and 3) America Online has Internet Email file size and mailbox limits. It would be wise to check with a user first, before sending them Email via the Internet.

Sending programs via Email

On the Internet, Email is used not only to send text messages, but applications and data as well. To send non–text information, such as a program or a data file, the file must first by coded into standard ASCII text characters. Apple II users can do this using a special utility.

As an example, say you wanted to Email a program and its related files to another person on the Internet. First, you would use ShrinkIt (or GSHK, the IIGS version) to put all of the files into an NuFX archive—a compressed package designed to pack a file or collection of files into a single file that can safely exist on non–Apple II systems. This part is the same as what you'd do to upload a file onto a commercial service such as America Online.

Next, because of the text–oriented nature of Email, you'd have to repack the NuFX archive into a text file. That's where a utility such as BinSCII comes in. It takes a binary file (any non-text file is binary) and converts in into standard ASCII text file. Once you convert your NuFX archive into text, it's easy to send it via Email.

Email isn't the best way to send volumes of programs and data, however. The second Internet service, FTP, is designed for that. In fact, you should avoid sending stuff Email as much as you can because it bottlenecks the network.

Using the File Transfer Protocol

FTP allows Internet users to connect with remote hosts to explore their directories and get files from them. Many Internet host sites catalogue gigibytes of shareware and freeware Apple II stuff. How can you

get your hands on it?

To connect to another host and "FTP" files from them, you'll of course need the host's location address. We've included some host sites' locations in the accompanying box "Internet sites for Apple II users" on the next page. Once you make connections on the Internet, you'll find a lot more.

You don't necessarily have to have an account at a host site to FTP from them, as many sites allow anonymous FTP. When prompted for your username, answer Anonymous. If asked for a password, answer with your full Internet address (see box below). Of course, other sites may not allow you to logon until you have an established account.

A very short UNIX primer

Computers on the Internet run the UNIX operating system. A smattering of UNIX commands will allow you to search through archives to find the files you want in an FTP session. Like ProDOS, UNIX files are stored in directories and subdirectories ("folders" in the Apple desktop metaphor).

You can catalog subdirectories with *dir* (for "directory") or *ls* ("list") commands (dir gives more information.) Change the current directory with the *cd* command—to open a "folder" (subdirectory) in the current directory, type cd followed by the name of the subdirectory you want to enter. To close a folder type cd and two periods.

UNIX directory names are case sensitive. If you see a directory name with one or more capital letters, use the name in quotes, like this: *cd "ProgramDocs"*. You can also open more than one subdirectory at once by using quotes; *cd "/pub/info"* would change to the /pub/info subdirectory in one step.

When you see a file you want, type *get* followed by the filename. A filename with capital letters must be in quotation marks. If the file you want to "get" is a binary file, typing *BIN* will put the FTP session in binary mode; *ASCII* will reinstate text mode, for getting regular text files.

Getting the files to use

There's really two levels involved in getting files from an Internet host to your personal system. First, you'll have to get them into your account on your local Internet host (the idea of FTP) and then you'll need to port them to your Apple II.

The first half requires Internet access. You'll either need a full service Internet account that lets you get files using FTP, or have somebody on the Internet get it for you and Email it to you. In both cases, you'll only be half way; you'll still need to get the file to your Apple II.

If your access is through a UNIX terminal, you can (maybe) download it directly to your II (if you have a modem on it), or to a Macintosh or PC, and then transfer it using a software translator (such as an FST on the IIGS, or a utility like a2fx for 8-bit IIs or Apple File Exchange on the Mac).

On the other hand, with Internet access from a commercial service you can download the files you get from your account as you would any other files available on the service.

Using the files you get

Once you get your files home, you'll have the task of transforming them into a state you can use. Similar to the steps performed to create a NuFX archive (as described above, see also March article on telecommunications) are those needed to remove the various processings on a file you get. You'll simply need the utilities.

Processings? Well, besides using ShrinkIt to ".SHK" the file into a NuFX archive (and maybe BinSCII to textify the file) the user on the other end may have created a .SDK file—just use ShrinkIt to unpack the file to its own disk. Files that originated on a non-Apple II system may be .ARC, .LHA, .LZH, StuffIt, .ZIP or .ZOO archives. To unpack these, you'll need an Apple II program that unpacks foreign archives. Many such utilities exist; GSHK, for example, unpacks many foreign archives formats.

UNIX sports similar archive formats. Files with a .tar extension are UNIX archives ("tar" stands for Tape ARchive). Files with a .Z extension are UNIX compressed files. As a comparison, .tar files are similar to an Apple II .SHK archive, but a .tar file isn't compressed. For this reason, a .tar is often given .Z compression. To unprocess these "tarred and feathered" files (which have the extension ".tar.Z"), uncompress and then untar.

In a UNIX FTP session, you can untar with the command *tar -xvf filename.tar*; to uncompress, type *uncompress filename.Z*. With some hosts, you can "get" a compressed .Z file to automatically uncompress by leaving the .Z off the filename when you get it. GSHK can also uncompress .Z files.

One last UNIX bit concerns uuencode. It's a UNIX utility like BinSCII for the Apple II. To return uuencoded files to normal, type *uudecode filename*.

Using Telnet

Besides offering access to files via FTP, the Internet also offers access to other functions available on a remote host computer. Once you log into a remote host ("telnet"), the remote computer can be used as if you were on a terminal of the computer. The computer's utilities (such as the information searching utilities GOPHER, ARCHIE, WAIS, or

Here's an example of an anynomous FTP logon:

At the prompt:	You enter:	To do this:
PROMPT%	FTP	Begin FTP session
FTP>	open plains.nodak.edu	Connect with site to FTP
username?	anonymous	Login as a guest
ident?	username@location.com	Enter your Email address
FTP>	bin	Set binary mode
FTP>	ls	List files in directory
FTP>	dir	List files with information
FTP>	cd "/pub/apple2"	Go to a directory
FTP>	get "filename.ext"	Get a file
FTP>	close	End connection
FTP>	quit	Quit FTP session

World Wide Web) can be run, you can read its files, play games available on the host, consult its databases or use other features.

How you can get on the Internet

If you're attending a university, you may have *gratis* Internet access available as a service of the school. Or perhaps Internet access is a fringe benefit where you work. In either case, your account will allow you to access the Internet hosts from a terminal of your school or employer's computer system.

Once you have an account, you have the option to access Internet directly from your Apple II at home using Morgan Davis Group's ProLine Apple II bulletin board system paired with their μMMDS software. The package includes source code to compile on your UNIX host system. (See also May issue "New Products")

On the other hand, if you're an isolated Apple II user with no ties to anything close to a UNIX box, but possess an interest in the Internet, you might try access though a commercial service. While more and more services are offering some type of Internet access, most don't provide open access to FTP and Telnet operations.

In fact, the only commercial service that offers a cheap ticket to the whole Internet is DELPHI. For information on DELPHI's Internet services and pricing, call 1 (800) 695-4005.

The best way to learn anything is often times to jump in and try it yourself. With a subject as large as the Internet, personal experience is about the only way to really fully comprehend the thing.

Additional information and help can be found in the comprehensive publications *The Whole INTERNET User's Guide & Catalog* by Ed Krol and *The Internet Companion* by Tracy LaQuey.

Internet Information

How do you get a grip of the largest computer network in the world? With tentacles in nearly every university, government and commercial research center and almost every computer related company in the world—over a million machines, with additional arms added every day—the Internet may seem like quite a beast to contend with.

Adventurous Internet captains (and business opportunists) searching for hidden treasure in the Internet's watery deep will want to know more about *The Internet Business Journal.* Published by Strangelove Press Inc. of Ottawa, Ontario, the $149 bimonthly journal informs down–to–business readers about Internet's ins and outs.

While the subject matter is intensely different from our own publication, we thought it interesting to point out the difference in price between our Apple II journal ($2 per issue) and the Internet journal ($25 a copy). And *The Passport House Letter* is published every month—what a deal!

Internet sites for Apple II users

First, the "Big Seven" sources for Apple II users:

Site name	Directories to search for Apple II stuff
apple2.archive.umich.edu	/archive/apple2
brownvm.brown.edu	LISTSERV.193 (files at this location are indexed by serial numbers; for a readable directory list, send Email to: listserv@brownvm.brown.edu with message "help" and your Email address)
cco.caltech.edu	/pub/apple2 (mostly IIGS stuff, but also some 8-bit material)
f.ms.uky.edu	/pub/appleII
grind.isca.uiowa.edu	/apple2
plains.nodak.edu	/pub/apple2
wuarchive.wustl.edu	/systems/apple2 /usenet/comp.binaries.apple2 also has a mirror files at apple2.archive.umich.edu site

...some other smaller sites of interest:

calvin.sfasu.edu	/pub/apple2 (HyperC and other stuff)
cs.bu.edu	/PC/APPLE (various)
ftp.apple.com	/dts/aii (system software, tech notes)
ftp.cc.utexas.edu	/gifstuff (Graphics Interchange Format files and converters)
ftp.hawaii.edu	/incoming/apple2 (games)
headcrash.berkeley.edu	/pub/Apple2 (software by Andy McFadden, author of ShrinkIt)
iskut.ucs.ubc.ca	/pub/apple (Kermit, BinSCII and unshrinkit uitilities)
pindarus.cs.uiuc.edu	/pub/apple2 (GNO utilities and information)
samba.acs.unc.edu	/pub/wuarchive (a mirror of files at wuarchive.wustl.edu)
slab.slip.uiuc.edu	/apple2 (GScii, fonts, GS System 6)
ucrmath.ucr.edu	/PC/apple2 (LISA assembler)

...and where you can find an archive of comp.sys.apple2 (Apple II-related messages)

relay.cs.toronto.edu	/pub/lists.1989 (archives from 1989)
wsmr-simtel20.army.mil	PD2:<ARCHIVES.APPLE> (archives from 1990 and 1991)

NEW PRODUCTS

IntelliKeys, Overlay Maker & IntelliTalk
IntelliTools (formerly Unicorn Engineering)
5221 Central Ave., Suite 205
Richmond, CA 94804
(510) 528-0670

IntelliKeys is a **replacement keyboard**, designed especially for kids and elementary education. The keyless board looks like a drawing tablet; it's supplied with overlay templates that depict the alphabet, or just numbers or arrows, especially for programs like the StickyBear, Carmen Sandiego and McGee series. Each overlay is coded so that the board generates the correct standard keyboard equivalent codes to be sent to the computer. The board links directly to the IIGS via its Apple Desktop Bus connection, or to the IIe with the optional IIe Card Kit, and so works with existing programs.

By presenting standard keys in alphabetical order or just a small subset of whole keyboard, IntelliKeys lets younger kids, the disabled or those learning English as a second language to use the computer without searching for keys on a standard keyboard. Retail price for IntelliKeys is $395; the IIe Card Kit is an additional $99.95.

Overlay Maker allows the production of **specialty layouts** for other purposes: IntelliTools suggests customization for educational projects, special keyboards for retail sales and adaptations for the disabled. Overlay Maker tells the IntelliKeys board how to interpret the custom layout templates it produces. The program works onb the IIe, Mac LC in IIe mode and IIGS. Overlay Maker retails for $69.95

IntelliTalk for the IIe reads letters, words or sentences as they are typed and reads writing back after it is entered, providing users with a talking word processor or, with IntelliKeys, a simple communication device for the speech disabled. The IntelliTalk program for the IIe is $39.95. It requires the Echo™ speech synthesizer (not included).

ORCA/Pascal 2.0 with Object Extensions
The Byte Works, Inc.
4700 Irving Blvd. NW Suite 207
Albuquerque, NM 87114
(505)868-8183

The Byte Works has quickly followed up their release of ORCA/C 2.0 with the release of ORCA/Pascal 2.0 with Object Extensions. The new version of their Pascal programing language offers Apple II owners a chance to explore **object oriented programing**.

The Byte Works explained that object oriented programming speeds up development time by assisting in the creation of reusable chunks of code. An "object" is a portable data structure that contains all of the information about a subject—similar to a record. What distinguishs objects is that they can also contain the procedures and functions related to the subject.

In a press release, The Byte Works used the example of a window object: it would contain not only information about the window, but also the procedures and functions that deal with the window. These imbedded procedures and functions are called "methods".

Object orientation in a programming environment creates organized packages that, once created, can be ported into another program and customized. To add an info bar to a basic window object, create a new object that inherits the characteristics of the basic object and add the new methods and variables to handle the info bar. Or override the methods in an object to change its characteristics. The principles of inheriting and overriding an object's methods allows programmers to easily reuse objects in their programs and share them with others, saving repetitive debugging efforts.

ORCA/Pascal 2.0 supports all of the object extensions developed by Apple Computer, in cooperation with Nicholas Wirth, Pascal's author. The extensions include a new data type, the object, which looks like a record with procedure and function headers inside. The Byte Works said using Apple's implementation of object extensions for Pascal is a big advantage in that users of the new ORCA/Pascal can pick up one of the many already available books on object oriented programming to learn about it. In addition, it makes moving programing between the IIGS and Macintosh easier, as Object Pascal is the same on both systems.

In addition to object orientation, ORCA/Pascal 2.0 includes built in support for creating custom extensions to HyperCard IIGS (XCMDs, eXternal CoMmanDs) and HyperStudio (NBAs, New Button Actions).

Two new "Standard Apple Numerics Environment" data types are available: extended and comp. Extended numbers boost accuracy from 13 digits to 19, and may make programs run faster as they are the format internally used by the SANE floating-point package.

Innovative System's 68881 Floating Point Engine is now supported. The FPE (math coprocessor card) accelerates heavy–duty math, making quick work of big time number crunching better than a standard system accelerator can.

A previous 64 K restriction on arrays has been erased as well, and a new 'extern' qualifier for variables has been included to allow tables and variables to be included from other languages.

The Pascal compiler has been improved too, resulting in smaller, faster programs. ORCA/Pascal comes with the new Prizm 2.0, The Byte Work's desktop development environment and the new ORCA/Shell 2.0. Both take advantages of the new features in IIGS System 6.0. Also included with Pascal 2.0 are Editor 2.0 (the new ORCA text development shell), Rez and DeRez (Apple's resource compiler/decompiler tools).

The Byte Works calls ORCA/Pascal 2.0 "the biggest step forward in programming technology for the Apple IIGS since resources." Through the end of May, The Byte Works is offering special pricing on Pascal 2.0: $75 (regular retail is $150), as well as combination packages including their *Learn to Program in Pascal* and *Toolbox Programming in Pascal* publications.

GS 4–MEG RAM Card & Focus 40/80 Hard Card
Parson's Engineering
5010 Rimhurst Ave.
Covina, CA 91724
(909) 394-0025

Parson's new **IIGS RAM Card** makes it easy to boost your memory. The new card comes with all four megabytes soldered in "for reliability." While the card isn't expandable, it makes a good companion for the older C.V. Technology cards with a piggy–back connector. It comes with a six month warranty. The card is comparable to Sequential Systems' RAM GS, a popular and inexpensive large capacity RAM card. Parson's card lists for $124.95.

We reported on the **Focus drives** back in our February issue. At that time, the card hadn't been named yet and since then, we've been supplied with a better address for the company. The Focus 40 and Focus 80 "hard cards" provide instant 40 or 80 MB hard disk storage for IIe and IIGS users.

The hard card uses a 2.5" IDE drive mechanism mounted on the interface card, so it uses the standard power supply and doesn't generate noise as compared to a external hard drive with a fan. With a stock Apple power supply, two Focus hard drives can be installed; with a larger power supply, your computer can hold up to six—the drives go in any slot except slot 3.

We've poo-pooed the use of internal IDE drives before, but the Focus drive is different, and its unique features may make it just what you're looking for in a medium format storage device.

Unlike the problematic InnerDrives and Vulcans, which require a removal of the powers supply, the tiny drive mechanism of the Focus allows for a quick interchange between systems—providing, among other things a quick and dirty way to transfer large amounts of data between Apple IIs. The drive can be switched between the IIe and IIGS without reconfiguration—but turn the computers off before making the switch, please.

The Focus drives feature breezy plug–and–play setup, no SCSI knowledge needed. Software is included: the drive comes formatted with System 6 and utilities. Retail price: Focus 40, $299.95; Focus 80, $399.95.

LATE NEWS

SANE bug discovered

A bug involving the IIGS' Standard Apple Numerics Environment (SANE) software tools was discovered by programmers at Seven Hills Software while working on The Manager. The SANE tools, like all software tools for the IIGS, are found in ROM, although many of the large number of tools in the IIGS' ROM are patched by the system software.

The SANE tools provide programmers with—as the name suggests—a standard environment for working in complex math functions. It's used by a lot programs, including **AppleWorks GS** in its spreadsheet and database modules, **HyperCard IIGS** and **MasterTrack Pro.**

Seven Hills said the problem is that SANE doesn't clean up direct page memory when the "SaneStartup" call is made. Because of this, an application may infinately wait for a value that isn't coming or may return bad values in error.

SANE.Fix, a patch Seven Hills wrote to correct the bug, solves this problem by cleaning the given direct page memory before the SaneStartup call is made. The problem has been reported to Apple and might be fixed in a future update of the system software.

Until then, SANE.Fix is available from most commercial online services. Seven Hills noted that the bug first showed up for many people when they started using The Manager. That's just a coincidence, Seven Hills said, because the layout of bank zero memory is different when The Manager is active. Problems have occured for some people without The Manager's presence.

Seven Hills Software can be reached online AppleLink, America Online and GEnie as SevenHills and on CompuServe at 75300,1743.

Seven Hills Software
2310 Oxford Road
Tallahassee, FL 32304-3930

A hard (drive) bargain?

Manufacturers of hard disk mechanisms are falling on hard times. New software that's piggish with disk storage—like Microsoft Windows and the new programs to go with it—has created a demand for 120 MB and bigger drives. That's resulted in a glut of smaller drives, and losses for companies not ready with the big drives.

Prices on smaller drives have fallen 10% in first quarter 1993 reports *BusinessWeek*. That's twice the usual decline rate.

Conner Peripherials, which is the number two maker of hard drives, bit hard on a $22.5 million bullet that quarter, and profits at number one Seagate Technology are hurting as well.

Apple II users can rejoice that the really big drives are unnecessary for basic use on the II. The glut market of smaller–than–120 MB drives mean smaller price tags, so there's more reason than ever for II users to get a hard drive.

The Alliance wants you

The Alliance International, Inc. is a independant group aiming on getting the Apple II into the spotlight. Since early 1992, the group has been working "to promote the use of the Apple II computers."

How does the Alliance accomplish its work? By "national advertising of the Apple II and sending Apple II information to some institutional investors in Apple and to the general and the computer news media."

The group wants your support. Membership in the Alliance for a year costs $20; the money goes into postage and paper "to support the Apple II and its users." Get more information from:

The Alliance International Inc.
P.O. Box 20756
Louisville, KY 40250

...MORE LATE NEWS

Now hear this!

The human ear has an awesome ability to comprehend complex information, said *Business Week* in a short article entitled "The future of data processing: you ain't heard nothing yet."

The same audio processing that goes on in the brain to allow a person to carry on a conversation amid a babble of other voices may present a new way for computers to express complex data to people.

Looking into the subject is Gregory Kramer, a sound researcher at the Santa Fe Institute, a private research organization. Visual displays can present five data variables at once: the three spatial dimensions, color and animation. But with sound, a computer could convey, through pitch and timbre and other aspects, eight or perhaps ten different variables at once. The article speculated that wall Street traders may someday listen to synthesized patterns of sound "for meaningful changes in a fast–moving financial market."

The *other* system 6

MS-DOS has finally caught up with GS/OS—well, almost. Microsoft, with the official release of its sixth generation of MS-DOS (the chief operating system for the IBM-compatible masses) is apparently trying to blowout the media with its HUGE campaign ($7 million worth) to convince current MS-DOS 5 users that they need version 6.

Until May 31, 1993, the new DOS goes for $49.95. After that, look out—version six becomes $129.95! Interestingly, ProDOS 4.0.1 for the Apple II is available for $14, and System Software IIGS 6.0 is $39 in a package with manuals (or free by itself).

What makes MS-DOS so much more? It's superior windowing interface? No, as MS-DOS has none at all; for that you'll need Windows 3.1 (an extra $117.95, please). On the other hand, System 6 IIGS *is* a windowing interface (think of Windows + MS-DOS as kind of like the IIGS' Finder running under DOS 3.3, accept not as fast, with more bugs, missing features and a bizarre, unintuitive interface.)

Is MS-DOS 6 more because it includes the new DoubleSpace disk compression utility? Hmmm—nope on that count as well; GS/OS plus AutoArk or Hard Pressed (take your pick) is still way cheaper. *INFOWORLD*, a major computer trade magazine, actually made serious recommendations against using DOS 6's DoubleSpace, because of their findings that it often corrupted the data it was trying to compress.

Grasping for straws, lets try: DOS 6 costs more because it includes revolutionary new commands like "deltree." This new command lets users delete an entire subdirectory and its files, rather than delete each file one at a time. But come to think of it, the GS/OS has been able to delete a folder along with the files in it for a long time now. Nix that one.

Well, perhaps DOS 6 is more because without support for system resources, without a complete and simple memory management system, without an internally generic file system (that allows for the luxury of using foreign file systems) and without a simple, intuitive operation, DOS 6 can claim that it requires less computing power and less RAM.

Wrong! DOS 6 is more because there is more money in the DOS world for Microsoft to get.

Thanks, Apple Computer, for continuing development on a financially unrewarding system. Apple II owners everywhere are consistently becoming more productive and getting more use out of their system because of your work in developing new system software. Your efforts are much appreciated.

End Notes

Did you know:

- GS/OS *isn't* currently at version 6.0? Actually, 6.0 refers to the version of the IIGS' complete System Software package. GS/OS wasn't part of the System Software until System 4. Up untill then, the IIGS was running ProDOS 16. GS/OS isn't a version of P16; it's really a whole new operating system. Check the GS/OS version by holding a key while resetting the computer. Under System 6.0, GS/OS is v. 4.x.
- Both the Apple II and the Macintosh share the same "low level" format for 3.5" 800 K disks, although their "high level" formats differ. The high level format relates to the directory of files written to the disk by the file system. Low level format is the mechanical drive system used.

That means that you can buy Mac preformatted disks and "erase" them from the IIGS' Finder (or another utility that uses GS/OS to erase volumes) as an 800 K, ProDOS disk. "Erasing" doesn't do anything to the disk' files, it just builds a new directory. You'll have—*instantly*—a ProDOS formatted, 800 K disk.

The same trick works with 1.44 MB 3.5" disks. Just install the FST for the file system of the source disk first—otherwise, GS/OS won't recognize that the disk is already formatted.

The Passport House Letter
PO Box 145
Miles City, MT 59301-0145 USA

BULK RATE
U.S. Postage
PAID
Miles City, MT 59301
Permit #64